Opposing Views Attachment #8

The Natural Resources in the Forest Benefit from Fire

Introduction: There are negative effects caused by nearly all actions … this includes the actions that manipulate and change the landscape after a fire. When such manipulation is proposed on public land, the public owners deserve to know the pros and cons of the project.

The only time a wildfire should e considered "catastrophic" is when it burns homes. The following statements describe why post-fire landscapes should e left alone and never manipulated for money.

Wildfire benefits Opposing View #1 - "Recently burned areas represent an important type of habitat that many species of animals have evolved to utilize. Snags (standing dead trees) provide critical nesting and foraging habitat for birds and small mammals, and as they decay and fall, create additional habitat for small mammals and terrestrial amphibians as coarse woody debris."

Campbell, John L. Ph.D, Dan C. Donato, Joe B. Fontaine J. Boone Kauffman Ph.D., Beverly E. Law Ph.D., and Doug Robinson
"**Biscuit Fire Study**." Oregon State University Department of Forest Science Terrestrial Ecosystem Research and Regional Analysis. 2003.
http://zircote.forestry.oregonstate.edu/terra/biscuit.htm

Wildfire benefits Opposing View #2 - "Yellowstone is a 'fire-adapted ecosystem,' which means wildfire helps maintain the health of the area's wildlife and vegetation. Most park fires are caused by lightning and, whenever possible, monitored and managed, but not necessarily extinguished."

Chronicle Staff, "**Yellowstone fires have potential to grow much larger**"
BozemanDailyChronicle.com, September 24, 2009
http://bozemandailychronicle.com/articles/2009/09/25/news/70fires.txt

Wildfire benefits Opposing View #3 - “Finally, as mentioned above, wildfires can also generate benefits. Many plants regrow quickly following wildfires, because fire converts organic matter to available mineral nutrients. Some plant species, such as aspen and especially many native perennial grasses, also regrow from root systems that are rarely damaged by wildfire. Other plant species, such as lodgepole pine and jack pine, have evolved to depend on stand replacement fires for their regeneration; fire is required to open their cones and spread their seeds. One author identified research reporting various significant ecosystems threatened by fire exclusion — including aspen, whitebark pine, and Ponderosa pine (western montane ecosystems), longleaf pine, pitch pine, and oak savannah (southern and eastern ecosystems), and the tallgrass prairie. [57] Other researchers found that, of the 146 rare, threatened, or endangered plants in the coterminous 48 states for which there is conclusive information on fire effects, 135 species (92%) benefit from fire or are found in fire-adapted ecosystems.” [58]

“Animals, as well as plants, can benefit from fire. Some individual animals may be killed, especially by catastrophic fires, but populations and communities are rarely threatened. Many species are attracted to burned areas following fires — some even during or immediately after the fire. Species can be attracted by the newly available minerals or the reduced vegetation allowing them to see and catch prey. Others are attracted in the weeks to months (even a few years) following, to the new plant growth (including fresh and available seeds and berries), for insects and other prey, or for habitat (e.g., snags for woodpeckers and other cavity nesters). A few may be highly dependent on fire; the endangered Kirtland’s warbler, for example, only nests under young jack pine that was regenerated by fire, because only fire-regenerated jack pine stands are dense enough to protect the nestlings from predators.”

Congressional Research Service Report
“**Forest Fire/Wildfire Protection**”
February 14, 2005
http://www.coloradofirecamp.com/congressional_research/forest-fire-wildfire-effects.htm

Wildfire benefits Opposing View #4 - “Forested landscapes may be thought of as living “crazy quilts,” with patches formed occasionally through the action of natural and human-caused disturbances like fire, windstorms, and logging. Prior to the advent of modern logging technology, virtually every North American forest experienced occasional renewal through the action of fire. In some places, fire was a frequent visitor, killing very few large trees as it burned harmlessly through the forest litter and

grass. In most places, though, fire burned only occasionally, creating patches of severely burned forest as it raced through the canopy under extreme weather conditions. In these patches, old forests were killed, soon to be replaced by young, rejuvenated stands. This cycle of forest maturation, death, and replacement was critical to maintaining the diversity and vitality of the ecosystem."

"**Dead Trees and Healthy Forests : Is Fire Always Bad?**"
The Wilderness Society, March 2003
http://www.wildfirelessons.net/documents/Dead-Trees-and-Healthy-Forests.pdf

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Wildfire benefits Opposing View #5 - "Trees killed by wildfire and left standing take on roles that change the ecological services they previously provided as components of a green-tree system. They still offer some shade, which in a burned environment can slow the heating of surface waters and the soil surface. They may also provide more rapid recruitment of large wood into streams. Decomposing fallen trees provide nutrients, shelter, and early structure for a rejuvenating forest floor."

"Burned forests typically support significantly different bird communities, with many species dependent on stand-replacement fires to maintain their populations across the landscape. Usually there's an increase in cavity-nesting, insectivorous birds such as woodpeckers and certain species of flycatchers."

Duncan, Sally Ph.D. "**Postfire Logging: Is it Beneficial to a Forest?**" USDA Forest Service. *PNW Science Findings* issue 47. October 2002.
http://www.fs.fed.us/pnw/sciencef/scifi47.pdf

Wildfire benefits Opposing View #6 - "Since those early days, millions of dollars have been spent on campaigns to prevent forest fires. But researchers now know that fire is not necessarily bad. It can be a natural part of a healthy grassland or forest ecosystem.

Fire reduces the buildup of dead and decaying leaves, logs and needles that accumulate on the forest floor. It reduces or eliminates the overhead forest canopy, increasing the sunlight that stimulates new growth from seeds and roots.

Many plants and animals have adapted to fire.

Both lodgepole pine and jack pine have resin-sealed cones that stay on trees for many years. The heat of fire melts the resin and the cones pop open. Thousands of seeds then scatter to the ground and grow into new stands of pine.

Woodpeckers feast on bark beetles and other insects that colonize in newly burned trees.

And so, 20 years ago, Parks Canada decided that it wouldn't interfere in natural processes such as fire, insects and disease unless it had to — that is, unless people or neighbouring lands were threatened."

"**Fighting fire in the forest**"
CBC News, June 17, 2009
http://www.cbc.ca/canada/story/2009/06/17/f-forest-fires.html

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Wildfire benefits Opposing View #7 - "Wildfires are a natural occurrence and serve important ecosystem functions. Forest landscapes are dynamic and change in response to variations in climate and to disturbances from natural sources, such as fires caused by lightning strikes. Many tree species have evolved to take advantage of fire, and periodic burns can contribute to overall forest health. Fires typically move through burning lower branches and clearing dead wood from the forest floor which kick-starts regeneration by providing ideal growing conditions. It also improves floor habitat for many species that prefer relatively open spaces."

"**Forest Fires**"
The Environmental Literacy Council, 2008
http://www.enviroliteracy.org/article.php/46.html

Wildfire benefits Opposing View #8 - "Animals, as well as plants, can benefit from fire. Some individual animals may be killed, especially by catastrophic fires, but populations and communities are rarely threatened. Many species are attracted to burned areas following fires — some even during or immediately after the fire. Species can be attracted by the newly available minerals or the reduced vegetation allowing them to see and catch prey. Others are attracted in the weeks to months (even a few years) following, to the new plant growth (including fresh and available seeds and berries), for insects and other prey, or for habitat (e.g., snags for woodpeckers and other cavity nesters). A few may be highly dependent on fire; the endangered Kirtland's warbler, for example, only nests under young jack pine that was regenerated by fire,

because only fire-regenerated jack pine stands are dense enough to protect the nestlings from predators.

In summary, many of the ecological benefits of wildfire that have become more widely recognized over the past 30 years are generally associated with light surface fires in frequent-fire ecosystems. This is clearly one of the justifications given for fuel treatments. Damage is likely to be greater from stand replacement fires, especially in frequent-fire ecosystems, but even crown fires produce benefits in some situations (e.g., for the jack pine regeneration needed for successful Kirtland's warbler nesting)."

"**Forest Fire/Wildfire Protection**"
Congressional Research Service Report for Congress, February 14, 2005
http://www.coloradofirecamp.com/congressional_research/forest-fire-wildfire-effects.htm

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Wildfire benefits Opposing View #9 - "Natural forest disturbances, including fire, kill trees but remove very little of the total organic matter. Combustion rarely consumes more than 10 to 15 percent of the organic matter, even in stand-replacement fires, and often much less. Consequently, much of the forest remains in the form of live trees, standing dead trees, and logs on the ground. Also, many plants and animals typically survive such disturbances. This includes living trees, individually and in patches."

"These surviving elements are biological legacies passed from the pre-disturbance ecosystem to the regenerating ecosystem that comes after. Biological legacies are crucial for ecological recovery. They may serve as lifeboats for many species, provide seed and other inocula, and enrich the structure of the regenerated forest. Large old trees, snags, and logs are critical wildlife habitat and, once removed, take a very long time to replace."

Franklin, Jerry F. Ph.D. and James K. Agee Ph.D. "**Forging a Science-Based National Forest Fire Policy**." *Issues in Science and Technology* Fall 2003.
http://inr.oregonstate.edu/download/forging_a_science_based_national_forest_fire_policy.pdf

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Wildfire benefits Opposing View #10 - "Research had documented that, in some situations, wildfires brought ecological benefits to the burned areas — aiding regeneration of native flora, improving the habitat of native fauna, and reducing infestations of pests and of exotic and invasive species." (pg 2)

Gorte, Ross W. Ph.D.

from a CRS report for Congress, January 18, 2006
http://www.ncseonline.org/nle/crsreports/06Feb/RL30755.pdf

Wildfire benefits Opposing View #11 - "Ecologists and fire experts unanimously agree that fire has served an essential role in certain ecosystems for millennia. The ecological benefits of fire include: the creation of critical wildlife habitat in standing dead trees, increased nutrients and productivity in soil systems when burned material decomposes, improved conditions for surviving old growth trees when a surface fire moves through a system, and the regeneration of some fire dependent trees like lodgepole pine (Pinus contorta). Fire also increases availability of other fundamental building blocks of ecosystems such as moisture and sunshine by opening up the canopy and returning nutrients to the soil. Natural fire cycles maintain the diversity of habitats available to all the species in the ecosystem, from wildlife to wildflowers to fungi."

Gregory, Lisa Dale Ph.D.
"**Wildland Fire Use: An Essential Fire Management Tool**"
A Wilderness Society Policy and Science Brief
December 2004
http://wilderness.org/Library/Documents/upload/ScienceBrief-WildlandFireUseEssentialTool.pdf

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Wildfire benefits Opposing View #12 - "We do not need to be afraid of the effects of wildland fire in our forests. Fire is doing important and beneficial ecological work," said the report's author, Dr. Chad Hanson, a forest and fire ecologist and Director of the John Muir Project. "It may seem counterintuitive, but the scientific evidence is telling us that some of the very best and richest wildlife habitat in western U.S. forests occurs where fire kills most or all of the trees. These areas are relatively rare on the landscape, and the many wildlife species that depend upon the habitat created by high-intensity fire are threatened by fire suppression and post-fire logging."

Hanson, Chad Ph.D. February 2, 2010 "**New Report Debunks Myth of 'Catastrophic Wildfire'** "
http://johnmuirproject.org/documents/Myth%20of%20Catastrophic%20Wildfire%20Media%20Release.pdf

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Wildfire benefits Opposing View #13 - “As summer wildfire season begins in earnest throughout much of the West, it's important for the public and policymakers to recognize the important role that severely burned forests play in maintaining wildlife populations and healthy forests. Severely burned forests are neither "destroyed" nor "lifeless."

From my perspective as an ecologist, I have become aware of one of nature's best-kept secrets - there are some plant and animal species that one is hard-pressed to see anywhere outside a severely burned forest.”

“An appreciation of the biological uniqueness of severely burned forests is important because if we value and want to maintain the full variety of organisms with which we share this Earth, we must begin to recognize the healthy nature of severely burned forests. We must also begin to recognize that those are the very forests targeted for postfire logging activity. Unfortunately, postfire logging removes the very element - dense stands of dead trees - upon which many fire-dependent species depend for nest sites and food resources.”

Hutto, Richard L. Ph.D. “**The Ecology of Severely Burned Forests**”
Counterpunch, July 19 / 20, 2008
http://www.counterpunch.org/hutto07192008.html

Wildfire benefits Opposing View #14 - "Trees in a burned landscape, both dead and alive, continue to provide homes for wildlife after a fire and form the building blocks of new forests."

Karr, James R. Ph.D., "**Nature doesn't Benefit from Logging Fire-Damaged Lands**". Op-Ed *Tacoma News Tribune*. December 8, 2005.
http://www.docstoc.com/docs/122585663/Nature-doesn%EF%BF%BDt-benefit-from-logging-fire-damaged-lands

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Wildfire benefits Opposing View #15 - “For Pyne and many others who study wildfires, the conventional understanding of firefighting has led us to the misguided conclusion that this is a struggle we can win. In much of the West, fire is an ordinary part of the landscape, a feature as essential to many ecosystems as rivers and grasses. Periodic fires are nothing more than regular disturbances; it is us who have made them into disasters.”

Mark, Jason “**Mission Impossible**”
Earth Island Journal, winter 2009

http://www.earthisland.org/journal/index.php/eij/article/mission_impossible/

Wildfire benefits Opposing View #16 - “Fire releases nutrients and uncovers bare soil. The blackened, bare soil warms quickly, which stimulates soil microbial activity, nutrient cycling, and plant growth. In forests, fire opens up part of the canopy to sunlight, which allows sun-loving plant species to recolonize the site.”

“Following fires, plant communities go through successional changes. Many native wildlife species and popular game species, such as bobwhite quail, white-tailed deer, and wild turkey, are dependent on periodic fire to create and maintain suitable habitat. Surface fires can stimulate the growth of herbaceous foods for deer, elk, moose, and hares, and can enhance berry production for black bears and other wildlife. Small mammal populations generally increase in response to new vegetation growth, providing a food source for carnivores. Fire can also reduce internal and external parasites on wildlife.” (pg. 2)

“natural disturbance such as fires, floods, and herbivory are critical in maintaining valuable ecosystem functions and creating and restoring wildlife habitat.” (pg. 7)

Marks, Raissa
Fish and Wildlife Habitat Management Leaflet number 37
Published by the Natural Resources Conservation Service, USDA, April 2006
ftp://ftp-fc.sc.egov.usda.gov/NHQ/ecs/Wild/ImportofDisturbInHabMgt.pdf

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Wildfire benefits Opposing View #17 - "During recent decades, ecologists have learned that forest fires were a pervasive phenomenon in practically all forests of the world, even the rainforests. Humans have severely disrupted the natural pattern of fire across the landscape, especially during the last 100 years. Therefore, if forests are to be returned to their more 'natural' state, fire will have to be reintroduced."

Martinez, Lori “**Applications of Tree-Ring Dating**”
Laboratory of Tree-Ring Research at the University of Arizona
February, 2000
http://www.ltrr.arizona.edu/lorim/apps.html

Wildfire benefits Opposing View #18 - "Contrary to what you may think, a forest fire does not reduce everything to a lifeless ash. Instead, it leaves behind a landscape of blackened trees interspersed with remnants of green, intact forest. Post-fire specialists such as wood-boring insects quickly colonize the dead trees (snags), attracting an array of woodpeckers."

"Identifying the ecological value of a post-fire structure and the characteristics that make it attractive to wildlife is important."

Nappi, Antoine Ph.D., Pierre Drapeau Ph.D., Jean-François Giroux Ph.D.
and Jean-Pierre Savard Ph.D. "**Snag use by foraging black-backed woodpeckers (Picoides articus) in a recently burned eastern boreal forest**."
The Auk 120(2): 505-511. 2003.
http://www.borealcanada.ca/research_arc_hot_e.cfm

Wildfire benefits Opposing View #19 - "Trees that survive the fire for even a short period of time are critical as seed sources and as habitat that will sustain many elements of biodiversity both above and below ground. The dead wood, including large snags and logs, is second only to live trees in overall ecological importance."

Noss, Reed F. Ph.D., Jerry F. Franklin Ph.D.,
William Baker, Ph.D., Tania Schoennagel, Ph.D., and Peter B. Moyle, Ph.D.
"**Ecological Science Relevant to Management Policies for Fire-prone Forests of the Western United States**"
Society for Conservation Biology, February 24, 2006
http://www.nifc.gov/fuels/downloads/planning/EcologicalScience.pdf

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Wildfire benefits Opposing View #20 - "Disturbances, from windthrown trees to fires, are natural in forests and are essential for forest ecosystem well being. For example, fire is a disturbance in forests, but it is also beneficial. While disturbances kill some individuals, they also open up ecological living space for recolonization by many previously excluded species."

"Without fire, natural succession is upset. In a forest where fire has been unnaturally suppressed for many years (50 or more), fire intolerant trees grow unchecked, suppressing and outcompeting the normally dominant fire resistant trees. Overall biodiversity is reduced. As the tree diversity declines, the habitat becomes unsuitable for a large portion of the forest species. Animal species are lost, since the animals use the fire tolerant variety of tree species for food, shelter and nest sites."

Reice, Seth, Ph.D.
from a press conference with Senator Robert Torricelli, April 28, 1998,
http://www.saveamericasforests.org/news/ScientistsStatement.htm

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Wildfire benefits Opposing View #21 - "As a rule of thumb, timber experts say that any particular chunk of ground in the forest should be touched by intense fire every 50 to 100 years.

But the power of the fire is just the first step in forest regrowth. Weather patterns in the affected area over the nest year will play a big role in how the new forests develop. A summer of drought could kill the newly released seeds and short-circuit any new growth. That could give new species of trees a chance to grow in the area. Normal rains mixed with the nutrients left on the ground from the fire could be a great booster shot to getting the seeds off to a flying start.

Other natural benefits can be seen from fires. For instance, the once-rare black-backed woodpecker is now a regular site in the BWCA with the abundance of dead trees from recent smaller fires and the 1999 wind blow down of trees. New shrubs and ground vegetation is appealing to different kinds of wildlife to snack on."

"**Rising from the ashes: Forest fires give way to new growth**"
Science Buzz, May 2007 (supported by the National Science Foundation)
http://www.sciencebuzz.org/blog/rising_from_the_ashes_forest_fires_give_way_to_new_growth

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Wildfire benefits Opposing View #22 - "Rotting logs are a very common feature of wild ecosystems. Rotting logs recycles nutrients back into the soil and provides a healthy habitat for a wide range of insects, plants, and animals. Rotting log provides homes for small mammals, insects, worms, and spiders. The rich, organic soil provides a unique habitat for fungi, tree seedlings, wildflowers, mosses, and ferns."

"**Rotting Wood and how it affects the Environment**"
MamasHealth.com
http://www.mamashealth.com/saveearth

Wildfire benefits Opposing View #23 - “More and more woodlot owners are taking a broader view of their forests. They look for values other than the immediate return on wood harvested. These values include other forest products such as ground hemlock and mushrooms; carbon storage; water purification; leaving a legacy for their children; and healthy wildlife populations.

Wildlife trees (dead or dying trees used for nesting, feeding, denning and roosting) go through several stages that can start with ants tunneling into the rotting centre to flycatchers perching on the bare branches. For cavity-nesting birds they are critical habitat. Some species excavate cavities for their nests, while others take over and enlarge existing holes. Many of these birds in turn help the forest, eating insects which can damage trees.”

Schneider, Gary“**Dead trees (they're still full of life!)**”
2008 Macphail Woods Ecological Forestry Project
http://www.macphailwoods.org/wildlife/deadtrees.html

Wildfire benefits Opposing View #24 - "Species that breed exclusively in the first 30 years after fire may be difficult to maintain in the ecosystem without fire. Fire exclusion and post-fire salvage of dead trees after fire may reduce populations of these species over large geographic areas."

Smith, Jane Kapler, ed. "**Wildland Fire in Ecosystems: Effects of Fire on Fauna"** USDA Forest Service Rocky Mountain Research Station. *General Technical Report RMRS-GTR-42*-volume 1. January 2000.
http://nps.gov/fire/download/fir_eco_wildlandfireJan2000.pdf

Wildfire benefits Opposing View #25 - “Ecological benefits of fire:

- Promotes flowering of herbaceous species and fruit production of woody species.
- Improves nutritional quality of plants for both wild and domestic animals.
- Enhances nutrient cycling of some elements and elevates soil pH.
- Maintains required habitat conditions for fire-adapted plant and animal species.

- Results in a more heterogenous and diverse habitat--if natural fires are patchy--leaving pockets of unburned areas.

- Prohibits wildfire conditions from developing (i.e., vast accumulation of highly-flammable, dead vegetation.)"

Tanner, G.W. Ph.D., W.R. Marion Ph.D., and J.J. Mullahey Ph.D.
"**Understanding Fire: Nature's Land Management Tool**"
A Florida Cooperative Extension Service publication, July, 1991
http://edis.ifas.ufl.edu/UW124

Wildfire benefits Opposing View #26 - "In retrospect, it is amazing that forest managers did not realize that dead wood was a critical habitat component for vertebrate and invertebrate wildlife and for the forest itself."

Thomas, Jack Ward Ph.D., US Forest Service Chief "**Dead Wood: From Forester's Bane to Environmental Boon**". Keynote address at the symposium on ecology and management of deadwood in western forests, Reno, Nevada. 1999.
http://www.fs.fed.us/psw/publications/documents/gtr-181/003_Thomas.pdf

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Wildfire benefits Opposing View #27 - "Wildfires have been a natural part of our environment since time began. Under the right circumstances these wildfires can be beneficial to an ecosystem."

"Wildfires consume vegetation that would otherwise become overgrown, creating ideal conditions for a catastrophic wildfire. Wildfires allow more open spaces for new and different kinds of vegetation to grow and receive sunlight. This, in turn, provides fresh nutrients and shelter for forest plants and animals. Wildfires also keep our forests healthy by consuming harmful insects and diseases."

Vernetti, Toni "**Are You Wildfire Aware?"**
June 07, 2005
http://www.googobits.com/articles/p0-547-are-you-wildfire-aware.html

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Wildfire benefits Opposing View #28 - "Fire is an essential, natural and necessary part of Western forest ecology. Many species of trees can only reproduce after fires occur. Wildland fires burn underbrush and return important nutrients to the soil."

Voss, René, Ph.D.
"**Getting Burned by Logging**," July 2002
The Baltimore Chronicle
http://www.baltimorechronicle.com/firelies_jul02.shtml

Wildfire benefits Opposing View #29 - "Wildfire is a natural part of most ecosystems across British Columbia. It helps to renew the forest, maintain the diversity of plant and animal life, and keep insects and disease in check. It opens up dense forest to allow the growth of shrubs and grasses, creating browse for deer, moose, elk and other animals. It releases nutrients locked in slowly decaying logs."

"**Wildfire in British Columbia**"
BC Forest Facts, September 2003
http://www.llbc.leg.bc.ca/public/PubDocs/bcdocs/364421/wildfire_bc.pdf

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Wildfire benefits Opposing View #30 - " "People are bombarded with the negative aspects of fire," Paragi said. "You hear terms like 'destroyed thousands of acres of forest,' and the thought of destruction gets embedded in the public mind. But fire is a natural part of the ecosystem and it is actually very important." "

"Fire opens up the forest canopy and allows sunlight to reach the ground, stimulating the organisms that decompose organic matter and make nutrients available to plants. Fire burns off the insulating layer of moss and duff, allowing sunlight to further warm the soil. The ash can release nutrients back into the soil and change soil chemistry, promoting plants growth."

Woodford, Riley "**Regeneration Following Fire Creates Fertile Habitat for Wildlife**"
Alaska Fish and Wildlife News, August 2003
http://www.wildlife.alaska.gov/index.cfm?adfg=wildlife_news.view_article&issue_id=5&articles_id=60

Wildfire benefits Opposing View #31 - “Healthy ecosystems burn, and often burn by the tens of millions of acres. The spate of large wildfires we are experiencing now are not “abnormal” or an indication of “unhealthy” forest. Rather, we are seeing the natural response of a healthy forest ecosystem.

Given that wildfire was so common for thousands of years, it is not surprising that recent research shows that wildfires, particularly severe wildfires, increase biodiversity.

If anything, we probably need more wildfire, not less. With global warming we will probably get it, as vegetative communities adapt to new climatic realities.”

Wuerthner, George. “**Logging, thinning would not curtail wildfires**”
The *Register - Guard* (Eugene Ore.), December 26, 2008
http://wuerthner.blogspot.com/2008/12/logging-thinning-would-not-curtail.html